

REMARKS

I. Status and Disposition of the Claims

Claims 1-3 are pending.

The Office continues to reject claims 1-3 under 35 U.S.C § 102(b) as “anticipated by,” or, in the alternative, under 35 U.S.C. § 103(a) as “obvious over” Japanese Publication No. JP 2000-021402 (“Inoue”). See September 8, 2008 Final Office Action at p. 2. Applicants respectfully continue to disagree with and traverse this rejection for at least the reasons of record, which are incorporated herein by reference, as well as the following additional reasons.

II. Response to Rejections

A. 35 U.S.C. § 102(b) rejection of claims 1-3

The Office maintains that claims 1-3 are anticipated by or unpatentable over Inoue for the reasons of record. See *id.* at 2-3. In prior responses, Applicants presented detailed arguments against the Office’s position. See, e.g., the Responses filed September 26, 2007 and June 10, 2008. To date, however, the Office has found such arguments unpersuasive, based primarily on allegations that the cited prior art, *Inoue*, discloses a lithium composite oxide material that inherently possesses the claimed lithium site occupancy rate and carbon content. See e.g., Final Office Action dated March 27, 2007 at 4-5 (stating that because “the active material for a positive electrode material disclosed by Inoue . . . and the instant application have the same material properties and particle size, it is the position of the examiner that . . . the occupancy rate of lithium... would be necessarily present.”).

In an effort to demonstrate that Inoue does not *necessarily* (i.e., inherently) possess the claimed lithium site occupancy rate, Applicants submitted a (First) Declaration Under 37 C.F.R. § 1.132 (hereafter, “the First Declaration”) together with a Response filed September

26, 2007. In this First Declaration, Applicants provided comparative test data establishing that lithium composite oxides that are compositionally similar do not *necessarily* have the same lithium site occupancy rate and carbon content, much less the claimed lithium site occupancy rate and carbon content. In a later response, Applicants submitted additional comparative test data to provide a more rounded set of data, per the Office's request. See Response dated June 8, 2008.

The Office, however, found the First Declaration and the subsequently supplied data unpersuasive. As explained in the pending Final Rejection, the Office rejected the submitted data because it was obtained from samples that were allegedly not made in accordance with the disclosure of either Inoue or the claimed invention. See Final Office Action dated September 8, 2008 at p. 6. In particular, the Office noted discrepancies between the manufacturing methodology used in the Declaration, and the methodology described in paragraphs 0030-0037 of Inoue. *Id.*

Applicants respectfully continue to disagree with the Office's position for at least the reasons of record, which are incorporated herein by reference. In particular, Applicants respectfully maintain that the Office has not provided sufficient evidence to establish that Inoue teaches, expressly or inherently, a lithium composite oxide having the claimed lithium site occupancy rate and carbon content. See claims 1 and 2. Rather, the Office has merely hypothesized that Inoue's compositions *might* have the claimed lithium site occupancy rate and carbon content. However, it is well established that the "fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." M.P.E.P. §2112 (*citing In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993)).

As clearly demonstrated by the prior supplied data, compositionally similar lithium composite oxides do not necessarily have the same lithium site occupancy rate and carbon

content, much less a lithium site occupancy rate and carbon content within the claimed range. Thus, absent an explanation of why Inoue's lithium composite oxides necessarily contain the claimed lithium site occupancy rate and carbon content, Applicants maintain that the Office's inherency position is not tenable.

Nonetheless, for the sole purpose of advancing prosecution, Applicants have submitted a Second Declaration Under 37 C.F.R. § 1.132 (hereafter, "the Second Declaration") concurrently with this response. As shown, the Second Declaration provides general information regarding lithium composite oxides, and explains why one of ordinary skill in the art would understand that a lithium composite oxide containing lithium in an atomic ratio of 0.99-1.10 will not necessarily have a lithium site occupancy rate exceeding 98%.

The Second Declaration also provides further test data demonstrating that the oxides of Inoue do not necessarily have the claimed lithium site occupancy rate and carbon content. As discussed in the Second Declaration, Applicants manufactured three lithium metal composite oxides (samples, A, B, and C), in accordance with paragraph's 0030 - 0037 of Inoue, as suggested by the Office. See Second Declaration, p. 5-6. The lithium content of each sample was determined by X-Ray diffraction and Reitveld analysis. See *id.* at p. 6-7. In addition, the carbon content of each sample was determined. See *id.* at p. 7. As reported in the Second Declaration, Samples A, B, and C exhibited a lithium site occupancy rate of 94.7%, 93.8%, and 93.0%, respectively. These samples also contained 0.22 wt %, 0.31 wt %, and 0.38 wt % of carbon, respectively. Thus, it is clear that compositions manufactured according to Inoue's process do not necessarily possess the claimed lithium site occupancy rate and/or carbon content.

For at least the foregoing reasons, Applicants respectfully submit that Inoue's compositions do not teach or suggest, expressly or inherently, each and every element of

claims 1-3. Accordingly, the 35 U.S.C. § 102(b) rejection of these claims as anticipated by Inoue is improper, and should be withdrawn.

B. 35 U.S.C. § 103(a) rejection of claims 1-3

The Office's basis for maintaining the 35 U.S.C. § 103(a) rejection of claims 1-3 is largely the same as the reasons of record. See Final Office Action dated September 8, 2008, pages 2-3. In particular, the Office notes that even in the case of an obviousness rejection, when a prima facie case of inherency is established, the burden is on Applicants to show that Inoue does not expressly or inherently possess the claimed characteristics. Final Office Action dated September 8, 2008 at p. 7.

Applicants respectfully continue to disagree with and traverse this rejection for at least the reasons of record, as well as the following additional reasons.

Several basic factual inquiries must be made in order to determine the obviousness or non-obviousness of claims of a patent application under 35 U.S.C. § 103. These factual inquiries, set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459, 467 (1966), require the Office to:

- (1) Determine the scope and content of the prior art;
- (2) Ascertain the differences between the prior art and the claims in issue;
- (3) Resolve the level of ordinary skill in the pertinent art; and
- (4) Evaluate evidence of secondary considerations.

The obviousness or non-obviousness of the claimed invention is then evaluated in view of the results of these inquiries. *Graham*, 383 U.S. at 17-18, 148 U.S.P.Q. at 467; see also *KSR Internat'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007).

In the recent *KSR* case, the Supreme Court recognized that a showing of "teaching, suggestion, or motivation" to modify or combine the teachings of cited

references could provide helpful insight in determining whether the claimed subject matter is obvious under Section 103(a). *Id.* at 1741. In addition, the Supreme Court mandated that "[t]o facilitate review, this analysis [of whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue] should be made explicit." *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir., 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")).

Post *KSR*, the Federal Circuit addressed the issue of whether, in view of *KSR*, mere structural similarity between prior art and claimed compounds is sufficient to render a claimed invention *prima facie* obvious. See *Takeda Chem. Indus. Ltd., v. Alphapharm PTY., Ltd*, 492 F.3d 1350 (Fed. Cir. 2007). Although the facts of the case were generally drawn to the obviousness inquiry in the context of structurally similar organic compounds, the *Takeda* court held that in the chemical context, "it remains necessary to identify some reason that would have led a chemist to modify a known compound in a particular manner to establish prima facie obviousness of a new claimed compound." *Takeda*, 492 F.3d at 1357. (emphasis added).

With this in mind, Applicants again submit, for the reasons discussed above in section II(A), that Inoue does not teach, expressly or inherently, a lithium composite oxide having the claimed lithium site occupancy rate and carbon content. Thus, the burden is on the Office to explain *why* one of ordinary skill in the art would have modified the lithium composite oxides of Inoue in an attempt to arrive at the claimed invention.

In the present case, however, the Office has not explained *why* or *how* one of ordinary skill in the art would have modified Inoue in an attempt to arrive at the claimed invention. Rather, the Office has merely asserted that it would have been within the skill of the ordinary artisan to mix the raw materials disclosed by Inoue at high temperatures, because temperature affects lattice parameters and crystalline structure of the positive electrode active material, which in turn affect the occupancy rate of lithium and the weight % of carbon present in the active material. See March 27, 2007 Final Office Action at p. 3. Such an argument amounts to a mere assertion that a modification "could" be performed. However, it in no way explains *why* one of ordinary skill would see any benefit in making such a modification. Moreover, it does not explain *why* one of ordinary skill would specifically control the parameters of Inoue's process in an attempt to arrive at the claimed invention (specifically the claimed lithium site occupancy rate and carbon content), when the cited prior art does not teach or suggest such features, or their benefits.

For at least the foregoing reasons, Applicants submit that the Office has failed to demonstrate that one of ordinary skill in the art would have been motivated to modify Inoue in an attempt to arrive at the claimed invention. For at least these reasons, the 35 U.S.C § 103(a) rejection of claims 1-3 is improper, and should be withdrawn.

III. Conclusion

In view of the foregoing remarks, Applicants respectfully submit that the pending claims of the present application are not obvious in view of the references applied by the Office. Thus, Applicants respectfully request the Office's reconsideration of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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By: /Nikolas J. Uhlir/
Nikolas J. Uhlir
Reg. No. 62,201